34. (New) A method as recited in claim 29, wherein the first and second plurality of communication element types are implemented with XML code.

35. (New) A computer-implemented system for communicating over a target medium having a multi-layered protocol, comprising:

a software program for controlling an electronic instrument connected to the target medium;

a bus model file accessible by the software program and including—

a first plurality of communication element types representing different communication elements for a first layer of the protocol; and

a second plurality of communication element types representing different communication elements for a second layer of the protocol, the second layer being lower than the first layer,

each of the first and second plurality of communication element types being an instantiable software data type, and

at least one of the first plurality of communication element types including a reference to at least one of the second plurality of communication element types;

a software API (applications program interface), accessible by the software program, for creating communication element instances based on the first and second plurality of communication element types, said communication element instances including—

at least one first communication element instance within the software program, each being a specific expression of a respective one of the first plurality of communication element types; and

at least one second communication element instance within the software program, each being a specific expression of one of the second plurality of communication element types included by reference in a respective first communication element type.

36. (New) A computer-implemented system as recited in claim 35, wherein the first and second plurality of communication element types are implemented using nested software tags.

37. (New) A computer-implemented system as recited in claim 36, wherein the bus model file is an XML file.

38. (New) A computer-implemented system as recited in claim 35, wherein the bus model file further includes a third plurality of communication element types, accessible by the software program and representing different communication elements for a third layer of the protocol, the third layer being lower than the second layer, and at least one of the second plurality of communication element types including a reference to at least one of the third plurality of communication element types.